# SUBSTANCE USE AND ABUSE AMONG JAMAICAN MALE DURING THE POST COVID-19 ERA

BOURNE, P. A.[1*] – POMPEY, S.[2] – SALMON, N.[3] – TAYLOR, G.[2] – DOUGLAS, S.[2] – D'AGUILAR, M.[2] – FALLAH, J.[3] – CAMPBELL, C.[4]

[1] *Department of Institutional Research, Northern Caribbean University, Mandeville, Jamaica.*

[2] *Department of Nursing, Northern Caribbean University, Mandeville, Jamaica.*

[3] *Department of Dental Hygiene, Northern Caribbean University, Mandeville, Jamaica.*

[4] *Department of Mathematics and Engineering, Northern Caribbean University, Mandeville, Jamaica.*

**Corresponding author*
*e-mail: paul.bourne[at]ncu.edu.jm*

(Received 29th January 2023; accepted 11th April 2023)

**Abstract.** Substance use and abuse among Jamaican males is a public issue that has been swept under the rug as it is portrayed as custom usage in society. There is no literature on Jamaican males about the issues they face due to using substances, how it affects their bodies, and how the use/abuse of substances affects their families and friends. The purpose of this study is to investigate the use and abuse of substances among Jamaican males who are 18 years and older during the COVID-19 pandemic. The study used primary cross-sectional web-based survey data collection on males 18 years and older from the Fourteen parishes of Jamaica. The survey commenced on October 4, 2022, and ended on November 30, 2022. By the use of a systematic random sampling technique of every fifth male within the population, 1089 surveys were collected. The Drug Abuse Screening Test (DAST) was self-administered among 1,089 Jamaican males. Using the DAST-20, 3 in every 4 male respondents (75%) were classified as using drugs during the past 12 months. One in every 10 male respondents was at least a substantial drug abuser and 12% were intermittent drug users, with 53 in every 100 being low drug users. The male respondents who are most likely to be severe drug users (or abusers) are those ages 43-47 years old (10.7%) followed by those ages 38-42 years old (5.0%). Males are experiencing various degrees of psychological challenges during the post-COVID-19 era and programmes must be implemented that can effectively allow them to manage their situations.
**Keywords**: *COVID-19, substance use, substance abuse, Jamaican male*

## Introduction

Substance abuse is a global issue. According to the United Nations Office on Drugs and Crime (UNODC) (UN, 2019), 35 million people suffer from drug use disorder. The statistics from the UNODC indicated that most of the drug users are less than 30 years old. In a study by the National Institute on Drug Abuse (NIDA) (National Institute on Drug Abuse, 2020), substance abuse is substantially a male phenomenon. The issue of substance abuse is a challenge in the Caribbean. According to Angulo-Arreola et al. (2017), the Caribbean is used as a transhipment point. This means that people in the Caribbean region are exposed to hard drugs. Substance abuse is not only a physiological issue but a psychological one (Longman-Mills et al., 2015). Substance abuse, as defined by the World Health Organization (WHO) is "the harmful or hazardous use of psychoactive substances" (Department of Correctional Services, 2023). Some examples of psychoactive substances are alcohol, caffeine, nicotine, marijuana, cocaine, heroin

and certain pain medicines (National Cancer Institute, 2023). Based on a summary of community assessment, conducted by the National Council of Drug Abuse (NCDA) in Jamaica in November 2013, most communities are concerned about alcohol use among older people (NCDA, 2022). Tobacco, alcohol and cannabis are the most common substances used by Jamaicans, according to the 2016 National Drug use Prevalence Survey (Younger-Coleman et al., 2016). It was found that substance usage was higher in Jamaican males (Younger-Coleman et al., 2016).

The Social Stress Model of Substance Abuse integrates knowledge from several psychosocial models and theories which explain parameters that influence drug use (Lindenberg et al., 1998). These parameters were identified as a social network, social competence, and resources. The risk for substance abuse is perceived as a fractional equation with stress in the numerator and coping skills, community resources, and positive attachments in the denominator (*Figure 1*). The model analyses empirical evidence for the association of competence with drug use, as the variables of the denominator are viewed as interacting with each other to buffer the impact of stress, and the domains of drug protective competence were identified and conceptually defined (Lindenberg et al., 1998). The model also integrates the emphasis on individual and family systemic variables.

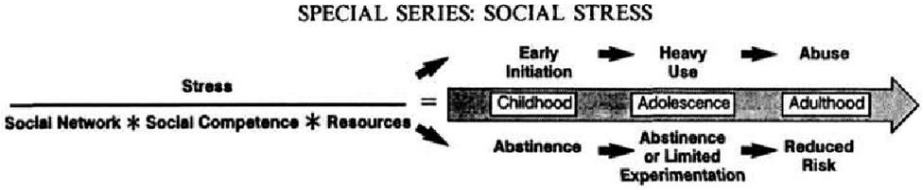


***Figure 1.*** *Social stress model of substance abuse.*

The COVID-19 pandemic has transformed the way of life of people worldwide. In December 2019, the COVID-19 outbreak began in Wuhan, China and by March 2020, the first case was confirmed in Jamaica. Individuals with Substance Use Disorders (SUD) were a risk population due to multiple factors attributable to their clinical, psychological and psychosocial conditions during the pandemic (Ornell et al., 2020). The social and psychological risks of the COVID-19 pandemic can favour and increase drug abuse, in a potentially disastrous cycle. Social distance, isolation and quarantine were crucial measures used to help prevent the spread of coronavirus. However, these strategies, and the pandemic outbreak itself, have been associated with negative emotions, such as anxiety, sadness, anger or boredom (Ornell et al., 2020). These conditions contribute to relapse, even in those long-term abstainers, or intensify drug consumption (Mellos and Paparrigopoulos, 2022). In 2021 the United Nations Office on Drugs and Crime (UNODC) reported that around 275 million people used drugs globally during the period of the COVID-19 pandemic. This was a 22 per cent increase from 2010 (UN, 2021). As of June 2020, 13% of Americans reported starting or increasing substance use as a way of coping with stress or emotions related to COVID-19 (Mellos and Paparrigopoulos, 2022). A reporting system called ODMAP revealed that the early months of the pandemic caused an 18% increase nationwide in overdoses contrasted with those same months in 2019. The trend has continued throughout 2020 and in December of the same year. There was over 40 states surge in opioid-related death along with continuing concerns for those with substance use disorders. In Jamaica, violent crimes, particularly intentional homicides, are high and there are no

scientific studies on substance use and abuse during post-COVID-19 as this could be a contributory factor to the state of criminality in the society. Therefore, this study aims to investigate the use and abuse of substances among males (18 or older) in Jamaica during the COVID-19 pandemic.

## Materials and Methods

The Statistical Institute of Jamaica (STATIN) maintains a list of enumeration districts (ED) or census tracts (Statistical Institute of Jamaica, 2017). Using the 2018 male population for Jamaica, 1,242,775 males 18 years and older (Statistical Institute of Jamaica, 2017), a sampling error of 2.9688% and a 95% confidence interval, the calculated sample size is 1089. The sample size was disaggregated by parishes using the same probabilities for the population of Jamaica. The research team computed the parish probabilities based on the population of Jamaica as recorded by STATIN (Statistical Institute of Jamaica, 2017). There are fourteen Parishes in Jamaica and the sample size was determined by STATINS compositions (*Table 1*) listed. It was numbered sequentially and the selection of participants was arrived at by the use of a sampling interval (Charan and Biswas, 2013).

***Table 1.*** *Sociodemographic characteristics.*

| Parish | 2018 | Probability | Percentage | Sample size |
|---|---|---|---|---|
| Kingston and St Andrew | 699 978 | 0.2456 | 24.56 | 262 |
| St Thomas | 94 968 | 0.0348 | 3.48 | 37 |
| Portland | 82 669 | 0.0303 | 3.03 | 32 |
| St Mary | 114 902 | 0.0421 | 4.21 | 45 |
| St Ann | 174 256 | 0.0639 | 6.39 | 68 |
| Trelawny | 76 005 | 0.0279 | 2.79 | 30 |
| St James | 185 753 | 0.0681 | 6.81 | 73 |
| Hanover | 70 287 | 0.0258 | 2.58 | 27 |
| Westmoreland | 145 673 | 0.0534 | 5.34 | 57 |
| St Elizabeth | 151 885 | 0.0557 | 5.57 | 59 |
| Manchester | 191 940 | 0.0704 | 7.04 | 75 |
| Clarendon | 247 778 | 0.0908 | 9.08 | 97 |
| St Catherine | 521 409 | 0.1912 | 19.12 | 204 |
| Total | 2 727 503 | 1.0000 | 100 | 1 089 |

The study used primary cross-sectional web-based survey data collection on men 18 years and older using a systematic random sampling technique (every 5th male) (Levi et al., 2022; Charan and Biswas, 2013). The survey was submitted and approved by Harvey Skinner PhD. Professor of Psychology & Global Health, York University; The Drug Abuse Screening Test (DAST, 20 item versions) is published and marketed by the Center for Addiction and Mental Health, Toronto, Canada: www.camh.ca. A 26-item questionnaire was used to collect the data. The instrument was subdivided into the general demographic profile of the sample (six items). To score the responses: a score of 1 point for each item answered: “Yes”, except for items #4 and #5 where a “No” receives 1 point and a “Yes” receives 0 points. The following tentative guidelines are suggested for interpreting the DAST total score (*Table 2*).

***Table 2.*** *Measurement and interpretation of DAST.*

| | DAST hun-20 | Action | ASAM |
|---|---|---|---|
| None | 0 | Monitor | |
| Low | 1-5 | Brief counseling | Level I |
| Intermittent (likely meet DSM criterion) | 6-10 | Outpatient (intensive) | Level I or II |
| Substantial | 11-15 | Intensive | Level II or III |

| | | | |
|---|---|---|---|
| Severe | 16-20 | Intensive | Level III or IV |

According to the Belmont Report, a report prepared by the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research stated that, researchers must be concerned with three ethical issues: (1) respect for persons thus recognizing research participants as autonomous agents; (2) beneficence by ensuring to secure the well-being of participants by not harming them and, further, maximizing possible benefits; and (3) justice which entitles fairness in the distribution of benefits and possible risks across all research participants (VanderStoep and Johnson, 2009). As it relates to ethical considerations, the research team followed the procedures ensuring that no harm was done to the participants include providing freedom of choice, use of informed consent before the experiment begins, treating participants with respect, a thorough debriefing in which the purposes and procedures of the research are explained in detail to the participants and the exclusion of all personal identifier than can be used for personal tracing to the individuals (Dawson, 2019; Stangor, 2014).

Data were collected, stored, and retrieved from the Statistical Packages for the Social Sciences for Windows, Version 29.0. The data analysis analyzed using frequencies and percentages, and cross-tabulations. Researchers used a p-value of 5% to determine the statistical significance (Polit, 1996). Data were collected, stored, and retrieved from the Statistical Packages for the Social Sciences for Windows, Version 29.0. The data analysis analyzed using frequencies and percentages, chi-square, and ordinary least square (OLS) regression. Researchers used a p-value of 5% to determine the statistical significance. Confirmatory factor analysis was used on the UCLA loneliness questionnaire, and the items were found to be suitable and appropriate for assisting loneliness in elderly Jamaicans. For the confirmatory factor analysis, the researchers examined KMO, item descriptive statistics, total explained variations, item correlations, and communalities (Mosler, 2015; Tabachnick and Fidell, 2013; Kaiser, 1974; 1970). The confirmatory factor analysis is presented in the findings section of this study. Substances refer to the following: alcohol, caffeine, prescribed or over the counter medication, nicotine, marijuana, cocaine, narcotics/opioids (e.g., heroin, fentanyl, morphine and oxycodone).

## Results and Discussion

*Table 3* presents the demographic characteristics of the sampled respondents. Of the male sampled respondents (n=1089), the majority of them were ages 28-32 years, single (61.6%), having a Bachelor's degree (29.5%), dwelled in the parishes of Kingston and St. Andrew (24.2%). *Figure 2* depicts the classification of male respondents on the Drug Abuse Screening Test (DAST). Using the DAST-20, only one in every 4 male respondents (25%) was classified as none drug abusers during the post COVID-19 era. One in every 10 male respondents was at least substantial drug abusers and 12% were intermittent drug users, with 53 in every 100 being low drug users. *Table 4* presents the itemization of the Drug Abuse Screening Test (DAST) of male respondents. The findings revealed that 61.5% of male indicated that they have used substances, 11.5% indicated that they abuse prescriptive drugs, 20.3% indicated that they use drugs on a weekly basis, 20.9% reported that they have had 'flashbacks' or 'blackouts' after using drugs, 13.1% stated that they have engaged in illegal activities in order to obtain drugs (substances), 10.1% have been arrested for illegal drugs, and 12.1% indicated that they

have experienced withdrawal symptoms (felt sick) when they stopped taking drugs (substances). Of importance here is that the period of study is in the last 12 months.

***Table 3.*** *Demographic characteristics of the sampled male respondent (n=1089).*

| Details | Frequency [N] (Percentage %) |
|---|---|
| Age (years) | |
| 18-22 | 190 (17.4) |
| 23-27 | 145 (13.3) |
| 28-32 | 199 (18.3) |
| 33-37 | 179 (16.4) |
| 38-42 | 141 (12.9) |
| 43-47 | 106 (4.4) |
| 48-52 | 48 (4.4) |
| >53 | 81 (7.4) |
| Matiral status | |
| Single | 671 (61.6) |
| Married | 217 (19.9) |
| Separated | 57 (5.2) |
| Divorced | 45 (4.1) |
| Common-law | 99 (9.1) |
| Educational level | |
| Primary | 28 (2.6) |
| Secondary | 301 (27.6) |
| Assicoate degree | 140 (12.9) |
| Bachelor degree | 321 (29.5) |
| Master degree | 56 (5.1) |
| PhD | 16 (1.5) |
| Vocational training | 84 (7.7) |
| Certification in a skill | 134 (12.3) |
| None | 9 (0.8) |
| Prishes | |
| Kingston and St Andrew | 263 (24.2) |
| St Catherine | 205 (18.8) |
| Clarendon | 102 (9.4) |
| Manchester | 81 (7.4) |
| St Elizabeth | 63 (5.8) |
| Westmoreland | 57 (5.2) |
| Hanover | 31 (2.8) |
| St James | 74 (6.8) |
| Trelawny | 30 (2.8) |
| St Ann | 68 (6.2) |
| St Mary | 45 (4.1) |
| Portland | 32 (2.9) |
| St Thomas | 38 (3.5) |
| Employment status | |
| Employed | 742 (68.1) |
| Unemployed | 206 (18.9) |
| Student | 141 (12.9) |

***Table 4.*** *The itemization of the DAST 20.*

| | Yes Frequency [N] (Percentage %) | No Frequency [N] (Percentage %) | No response Frequency [N] (Percentage %) |
|---|---|---|---|
| 1. Have you used drugs (substances ) other than those required for medical reasons? | 668 (61.3) | 360 (33.1) | 61 (5.6) |
| 2. Have you abused prescription drugs? | 125 (11.5) | 896 (82.3) | 68 (6.2) |
| 3. Do you abuse more than one drug (substance) at a time? | 358 (32.9) | 572 (52.5) | 159 (14.6) |
| 4. Can you get through the week without using drugs (substances)? | 731 (67.1) | 221 (20.3) | 137 (12.6) |
| 5. Are you always able to stop using drugs (substances) when you want to? | 574 (52.7) | 267 (24.5) | 248 (22.8) |
| 6. Have you had ’blackouts’ or ’flashbacks’ as a result of drug (substance) use? | 228 (20.9) | 667 (61.2) | 194 (17.8) |
| 7. Do you every feel bad or guilty about your drug (substance) use? | 240 (22.0) | 589 (54.1) | 260 (23.9) |
| 8. Does your spouse (or parents) ever complain about your involvement with drugs (substances)? | 221 (20.3) | 629 (57.8) | 239 (21.9) |

| | | | |
|---|---|---|---|
| 9. Has drug (substance) abuse created problems between you and your spouse or your parents? | 185 (17.0) | 661 (60.7) | 243 (22.3) |
| 10. Have you lost friends because of your use of drugs (substances)? | 134 (12.3) | 736 (67.6) | 219 (20.1) |
| 11. Have you neglected your family because of your use of drugs (substances)? | 107 (9.8) | 749 (68.8) | 233 (21.4) |
| 12. Have you been in trouble at work (or school) because of drug (substance) abuse? | 130 (11.9) | 742 (68.1) | 217 (19.9) |
| 13. Have you lost your job because of drug (substance) abuse? | 87 (80) | 792 (72.7) | 210 (19.3) |
| 14. Have you gotten into fights when under the influence of drugs (substances)? | 169 (15.5) | 706 (64.8) | 214 (19.7) |
| 15. Have you engaged in illegal activities in order to obtain drugs (substances)? | 143 (13.1) | 751 (69.0) | 195 (17.9) |
| 16. Have you been arrested for possession of illegal drugs (substances)? | 110 (10.1) | 813 (74.7) | 166 (15.2) |
| 17. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs (substances)? | 132 (12.1) | 726 (66.7) | 231 (21.2) |
| 18. Have you had medical problems as a result of your drug (substance) use (e.g. memory loss, hepatitis, convulsions, bleeding, etc.)? | 101 (9.3) | 777 (71.3) | 211 (19.4) |
| 19. Have you gone to anyone for help for drug (substance) problem? | 95 (8.7) | 767 (70.4) | 227 (20.8) |
| 20. Have you been involve in a treatment programme specifically related to drug (substance) use? | 74 (6.8) | 810 (74.4) | 205 (18.8) |

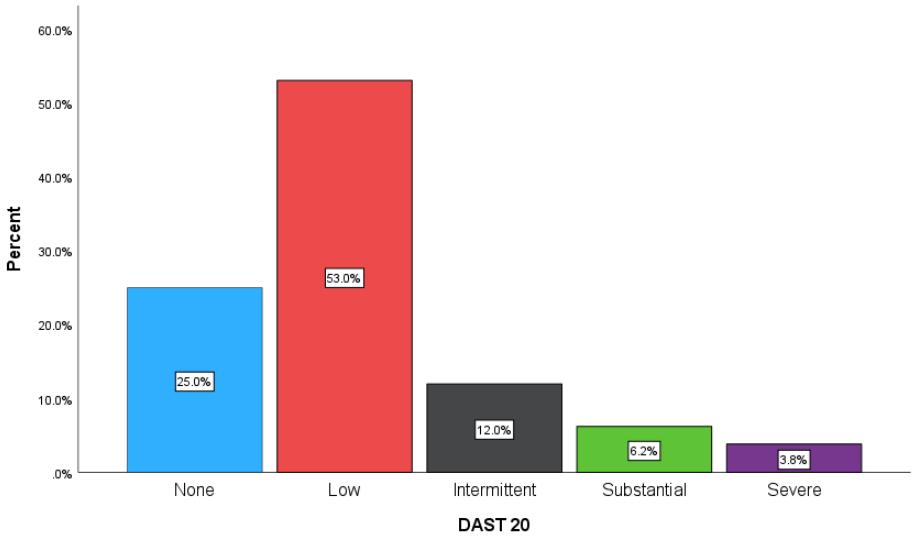


***Figure 2.*** *The drug abuse test (DAST) of Jamaicans male.*

*Table 5* presents a cross-tabulation between the DAST-20 and Age cohort of the male sampled respondents. Of the 1089 male respondents, 95.96% (n=1045) of them were used for this cross-tabulation. Using chi-square statistical test, a significant statistical relationship emerged between the two aforementioned variables ($\chi 2(28)=59.505$, $P<0.001$). The male respondents who are most likely to be severe drug users (or abusers) are those ages 43-47 years old (10.7%) followed by those ages 38-42 years old (5.0%). *Table 6* presents a cross-tabulation between the DAST-20 and marital status of the male sampled respondents. Of the 1089 male respondents, 95.96% (n=1045) of them were used for this cross-tabulation. Using chi-square statistical test, a significant statistical relationship emerged between the two aforementioned variables ($\chi 2(16)=62.039$, $P<0.001$). The male respondents who are most likely to be severe drug users (or abusers) are separated ones (10.7%) followed by the married ones (4.4%). *Table 7* presents a cross-tabulation between the DAST-20 and educational level of the

male sampled respondents. Of the 1089 male respondents, 95.96% (n=1045) of them were used for this cross-tabulation. Using chi-square statistical test, a significant statistical relationship emerged between the two aforementioned variables ($\chi 2(32)=49.935$, P=0.023). The male respondents who are most likely to be severe drug users (or abusers) were those without education (12.5%) followed by those with associate degree (7.3%). Furthermore, the substantial drug abusers were mostly those with primary level education (22.7%) followed with vocational level (12.3%).

***Table 5.*** *A cross-tabulation between the DAST 20 and age cohort of the male sampled respodnents.*

| DAST 20 | Age cohort (in years) | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | 18-22 N (%) | 23-27 N (%) | 28-32 N (%) | 33-37 N (%) | 38-42 N (%) | 43-47 N (%) | 48-52 N (%) | >53 N (%) | N (%) |
| None | 63 (34.8) | 45 (32.1) | 48 (24.5) | 33 (18.9) | 33 (23.7) | 20 (19.4) | 8 (17.8) | 11 (16.7) | 261 (25.0) |
| Low | 85 (47.0) | 69 (49.3) | 112 (57.1) | 104 (59.4) | 67 (48.2) | 55 (53.4) | 26 (57.8) | 36 (54.5) | 554 (53.0) |
| Intermittent | 15 (8.3) | 13 (9.3) | 23 (11.7) | 24 (13.7) | 27 (19.4) | 8 (7.8) | 5 (11.1) | 10 (15.2) | 125 (12.0) |
| Substantial | 15 (8.3) | 10 (7.1) | 7 (3.6) | 8 (4.6) | 5 (3.6) | 9 (8.7) | 4 (8.9) | 7 (10.6) | 65 (6.2) |
| Severe | 3 (1.7) | 3 (2.1) | 6 (3.1) | 6 (3.4) | 7 (5.0) | 11 (10.7) | 2 (4.4) | 2 (3.0) | 40 (3.8) |
| Total | 181 | 140 | 196 | 175 | 139 | 103 | 45 | 66 | 1045 |

*Notes: N=Frequency; %=Percentage.*

***Table 6.*** *A cross-tabulation between the DAST 20 and marital status of the male sampled respondents.*

| DAST 20 | Marital status | | | | | Total |
|---|---|---|---|---|---|---|
| | Single N (%) | Married N (%) | Separated N (%) | Divorced N (%) | Common law N (%) | N (%) |
| None | 161 (24.9) | 59 (28.8) | 11 (19.6) | 4 (9.3) | 26 (27.4) | 261 (25.0) |
| Low | 371 (57.4) | 102 (49.8) | 20 (35.7) | 19 (44.2) | 42 (44.2) | 554 (53.0) |
| Intermittent | 54 (8.4) | 25 (12.2) | 16 (28.6) | 13 (30.2) | 17 (17.9) | 125 (12.0) |
| Substanstial | 39 (6.0) | 10 (4.9) | 3 (5.4) | 6 (14.0) | 7 (7.4) | 65 (6.2) |
| Severe | 21 (3.3) | 9 (4.4) | 6 (10.7) | 1 (2.3) | 3 (3.2) | 40 (3.8) |
| Total | 646 | 205 | 56 | 43 | 95 | 1045 |

*Notes: N=Frequency; %=Percentage.*

***Table 7.*** *A cross-tabulation between the DAST 20 and education level of the male sampled respondents.*

| DAST 20 | Education level | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | A N (%) | B N (%) | C N (%) | D N (%) | E N (%) | F N (%) | G N (%) | H N (%) | I N (%) | N (%) |
| None | 4 (18.2) | 84 (29.3) | 36 (26.3) | 67 (21.4) | 12 (22.2) | 3 (18.8) | 16 (19.8) | 36 (28.3) | 3 (37.5) | 261 (25.0) |
| Low | 10 (45.5) | 137 (47.7) | 70 (51.1) | 184 (58.8) | 31 (57.4) | 9 (56.3) | 45 (55.6) | 66 (52.0) | 2 (25.0) | 554 (53.0) |
| Intermittent | 3 (13.6) | 31 (10.8) | 17 (12.4) | 40 (12.8) | 8 (14.8) | 3 (18.8) | 7 (8.6) | 14 (11.0) | 2 (25.0) | 125 (12.0) |
| Substantial | 5 (22.7) | 26 (9.1) | 4 (2.9) | 12 (3.8) | 2 (3.7) | 1 (6.3) | 10 (12.3) | 5 (3.9) | 0 (0.0) | 65 (6.2) |
| Severe | 0 (0.0) | 9 (3.1) | 10 (7.3) | 10 (3.2) | 1 (1.9) | 0 (0.0) | 3 (3.7) | 6 (4.7) | 1 (12.5) | 40 (3.8) |
| Total | 22 | 287 | 137 | 313 | 54 | 16 | 81 | 127 | 8 | 1045 |

*Notes: N=Frequency; %=Percentage; A=Primary; B=Secondary; C=Associate degree; D=Bachelor; E=Master; F=PhD; G=Vocational training; H=Certification in a skill; I=None.*

Sewell (2015) noted that the use substance to alter mental health status has been feature of human behaviour, suggesting that drug use is reality in human's existence (Department of Correctional Services, 2023; UN, 2019). Globally, the United Nations Office on Drugs and Crime (UNODC) (UN, 2019) estimated that 35 million people suffer from drug use disorder, and the full extent of drug use is not captured in this figure. In 2021 the United Nations Office on Drugs and Crime (UNODC) estimated 275 million people used drugs globally during the period of the COVID-19 pandemic. In Jamaica, the National Council on Drug Abuse (NCDA) estimated that 40% of the Jamaican population use alcohol, 11% use cigarettes, and 16% use ganja (male 27%, female, 5%) (NCDAS, 2022). A national study conducted by Younger-Coleman et al. found that substance usage was higher in Jamaican males than females (Younger-Coleman et al., 2016), which is the justification why the current study examined the male population during the post COVID-19 era.

According to Sewell et al. (2015), "The results indicate that approximately 18% of persons within the Jamaican prison population under study had a mental illness. Of this number, 57% of these persons had been previously diagnosed with a Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision (DSM IV-TR) Axis 1 disorder. Substance abuse was the most frequently diagnosed DSM-IV Axis I disorder within both populations". The statistics on drug use before COVID-19 are well documented; but the present study provides critical information on the post-COVID-19 era. Lalwani et al. (2022), using a Jamaica National Drug Prevalence Survey 2016, found that 19.6% of the sampled respondents (4,623, ages 16-65 years old) used two or more drugs in their lifetime, 68.7% reported using drugs in the past year and 61.9% reported using drugs in the month. Using the Drug Abuse Screening Test (DAST), the current study revealed that three in every 4 male respondents (75%) were using drug drugs in the last 12 months (i.e., during the post-COVID-19 era). One in every 10 male respondents was at least substantial drug abusers and 12% were intermittent drug users, with 53 in every 100 being low drug users. The drug use among Jamaica males continues as 61.3% of sampled males indicated that they use drug for non-medical reasons, 32.9% use more than one drugs, and 11.5% abuse prescription drugs. The statistics for substance use among Jamaican males is greater than that for the world as well as before the COVID-19 pandemic.

The current study on substance use and abuse goes further than statistics reported in the literature before the COVID-19 era (Lalwani et al., 2022; Felker-Kantor et al., 2019; Younger-Coleman et al., 2016; Stone, 1991) as more information are gleaned from the use of the Drug Abuse Screening Test (DAST). This research found that 9.3% of the sampled male respondents have had medical problems as a result of using substance and these medical conditions included memory loss, hepatitis, convulsions, and bleeding. Using self-reported information from the present respondents, substance use is influencing both the socio-physical and mental health of Jamaican males. Substance use is also influencing aggression levels of the males in Jamaica as 15.5% of sampled respondents indicated that they have gotten into physical confrontations when under the influence of drugs. Additionally, 22% of the sampled males indicated that they are remorseful of using substance, 20.3% stated that their usage of substances affect spouse

and parents alike, most of the substance abusers were separated or divorced men, 52.7% believe the can cease using substance at will, 13.1% indicated that they were engaged in criminal activities in order to feed their substance use behaviour, and these speak to the psychological challenges associated with COVID-19 as well as influence of spousal separation on human actions.

Mulvey et al. (2014) conducted a study and it revealed a relationship between substance use and adolescents engagement into socially deviant behaviours. In Jamaica, the current findings revealed that 63% of males less than 23 years use substances and 10% abuse these substances. This means that substance use and abuse are pathways to desistance, which can offer some explanations for the high rates of criminal engagement of adolescents in Jamaica. The substance use is ever greater for those ages 27 years and old and psychological stressors that are embedded in the Jamaican society. Mulvey et al. (2014) noted, "It is clear that there is a substantial unmet need for services among serious adolescent offenders, and targeting and improving substance use services for this group will help move them toward a successful transition to adulthood" which holds to key to understanding desistance among the young Jamaican males. The reality is, COVID-19 has worsened some of the socioeconomic issues experienced by young males, and so their increase use of substances is merely caveat for the psychology of a pandemic. The high rate of substance use among Jamaican males, therefore, offers some explanations of mental health turmoil caused by COVID-19, and how substance use is employed as a coping mechanism.

Sharma et al. (2016) conducted a qualitative study of boys who stay in juvenile homes in New Delhi, India; found that 87% of them use substances, and direct correlations between ganja consumption and homicide, inhalants and rape, and opioids and snatching-related criminal activities. In this study, information was not gleaned about the type of substances used but some facts explain Jamaican males' involvement into criminality, particularly the young ones. For this study during the post-COVID-19 era, 62% of males used substances in the last 12 months and 32.9% indicated using at least two drugs. The rationality of these males are substantially impaired by the multi-use of substances, and so their involvement into crimes such as murders, shootings, robbery, and rapes, are owing to the mental health impairment caused by substance use and the psychology of COVID-19. There is no doubt that structure of the Jamaican society coupled with COVID-19 has intensified the mental health turmoil occurring in Jamaican males. There are many Jamaican males who are psychologically impaired and they continue to operate without medical detections and treatment. Skjærvø et al. (2021) found that there was a relationship between substance use treatment and crime reduction, which explains this study's thesis that the large number of medically undiagnosed and mentally challenged Jamaican males who are interacting with the public is accounting the high rates of certain crimes in the society.

The current truths of substance use and abuse inclusive of alcohol consumption should not be surprising to people as a national probabilistic cross-sectional survey conducted by Wilks et al. (2008) found that in 2007-08 some 75% of Jamaicans ages 15-74 years consumed alcohol, 16.0% used marijuana, and 14.0% were cigarette smokers. The use the previously mentioned substances was found be mostly a male phenomenon, and then in 2017 revealed that 41% of Jamaicans ages 15 years and older consume alcohol, 17% use marijuana, and 27 % use cigarettes (Ministry of Health and Wellness, 2018). Those time periods (2007-08 and 2017-18) were before the COVID-19 pandemic and they provide some context for the Jamaican males' substance use and

abuse as well as explaining the exponential rise in drug use and abuse during the post COVID-19 era.

## Conclusion

In conclusion, substance use and abuse among Jamaica males during the post-COVID era is a truth that speaks to a greater set of underlying issues in the society and the challenges caused by the pandemic. Jamaican males are using and abusing substances in an effort to cope with the measures and policies that were implemented to deal with pandemic. Males are experiencing various degree of psychological challenges during the post-COVID-10 era and programmes must be implemented that can effectively allow them to manage their situations. There are not many rehabilitation programs/facilities in Jamaica that targets substance use and abuse issues. Here are a few recommendations that can be helpful in solving this problem: (1) the author recommends the development of rehabilitation centres for substance use and abuse in at least every parish in Jamaica. These rehabilitation centres can be connected to the main health centres in that parish; (2) the author recommend educational seminars and campaigns where individuals can be educated on the effects of substance use and abuse on their health. This can be done in collaboration with the Ministry of Health and Wellness; and (3) educate the public on drug prevention and treatment programs offered by the National Council on Drug Abuse and AA meetings offered across Jamaica.

## Acknowledgement

This research study is self-funded.

## Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research.

## REFERENCES

[1] Angulo-Arreola, I.A., Bastos, F.I., Strathdee, S.A. (2017): Substance abuse and HIV/AIDS in the Caribbean: Current challenges and the ongoing response. – Journal of the International Association of Providers of AIDS Care (JIAPAC) 16(1): 56-74.
[2] Charan, J., Biswas, T. (2013): How to calculate sample size for different study designs in medical research? – Indian Journal of Psychological Medicine 35(2): 121-126.
[3] Dawson, C. (2019): Introduction to research methods 5th edition: A practical guide for anyone undertaking a research project. – Robinson 160p.
[4] Department of Correctional Services (2023): DCS substance misuse treatment manual. – Department of Correctional Services Official Portal. Retrieved from: https://www.dcs.gov.jm/pages/probation-services/substance-misuse-treatment-manual/
[5] Felker-Kantor, E.A., Cunningham-Myrie, C., Greene, L.G., Lyew-Ayee, P., Atkinson, U., Abel, W., Clarke, P., Anderson, S.G., Theall, K.P. (2019): Neighborhood crime, disorder and substance use in the Caribbean context: Jamaica National Drug Use Prevalence Survey 2016. – PLoS One 14(11): 15p.
[6] Kaiser, H.F. (1974): An index of factorial simplicity. – Psychometrika 39(1): 31-36.
[7] Kaiser, H.F. (1970): A second generation little jiffy. – Psychometrika 35(4): 411-416.

[8] Lalwani, K., Whitehorne-Smith, P., Walcott, G., McLeary, J.G., Mitchell, G., Abel, W. (2022): Prevalence and sociodemographic factors associated with polysubstance use: analysis of a population-based survey in Jamaica. – BMC Psychiatry 22(1): 11p.
[9] Levi, R., Ridberg, R., Akers, M., Seligman, H. (2022): Survey fraud and the integrity of web-based survey research. – American Journal of Health Promotion 36(1): 18-20.
[10] Lindenberg, C.S., Solorzano, R., Kelley, M., Darrow, V., Gendrop, S.C., & Strickland, O. (1998): Competence and drug use: Theoretical frameworks, empirical evidence and measurement. – Journal of Drug Education 28(2): 117-134.
[11] Longman-Mills, S., Whitehorne-Smith, P., De La Haye, W. (2015): Substance abuse and its relationship with household dysfunction and psychological distress among university students. – West Indian Medical Journal 2(1): 3-6.
[12] Mellos, E., Paparrigopoulos, T. (2022): Substance use during the COVID-19 pandemic: What is really happening? – Psychiatrike=Psychiatriki 33(1): 17-20.
[13] Ministry of Health and Wellness (2018): Jamaica Health and Lifestyle Survey III (2016-2017). – Ministry of Health and Wellness 6p.
[14] Mosler, M. (2015): A note on the multiplying factors for various chi-square approximations. – Journal of the Royal Statistical Society 16: 396-398.
[15] Mulvey, E.P., Schubert, C.A., Piquero, A. (2014): Pathways to desistance: Final technical report. – US Department of Justice, Washington, DC 20p.
[16] National Cancer Institute (2023): Psychoactive substance. – National Cancer Institute Official Portal. Retrieved from: https://www.cancer.gov/publications/dictionaries/cancer-terms/def/psychoactive-substance
[17] National Center for Drug Abuse Statistics (NCDAS) (2022): Drug abuse statistics. – NCDAS Official Portal. Retrieved from: https://drugabusestatistics.org/
[18] National Council on Drug Abuse (NCDA) (2022): Do we have a drug problem? – National Council on Drug Abuse Official Portal. Retrieved from: https://ncda.org.jm/publications/surveys/do-we-have-a-drug-problem/
[19] National Institute on Drug Abuse (2020): Sex and gender differences in substance use. – National Institute on Drug Abuse Official Portal. Retrieved from: https://nida.nih.gov/publications/research-reports/substance-use-in-women/sex-gender-differences-in-substance-use
[20] Ornell, F., Moura, H.F., Scherer, J.N., Pechansky, F., Kessler, F.H.P., von Diemen, L. (2020): The COVID-19 pandemic and its impact on substance use: Implications for prevention and treatment. – Psychiatry Research 289: 2p.
[21] Polit, D.F. (1996): Data analysis & statistics for nursing research. – Appleton & Lange 456p.
[22] Sewell, C.A., Hickling, F.W., Abel, W.D., Smith, S., Paisley, V., Martin, J., Shaw, J. (2015): A comparison of substance abuse and mental illness in male offenders in Jamaica and England and Wales. – WIMJ Open 2(1): 36-40.
[23] Sewell, C.A. (2015): Substance abuse and mental health. – WIMJ Open 2(1): 2014-2016.
[24] Sharma, S., Sharma, G., Barkataki, B. (2016): Substance use and criminality among juveniles-under-enquiry in New Delhi. – Indian Journal of Psychiatry 58(2): 178-182.
[25] Skjærvø, I., Clausen, T., Skurtveit, S., Bukten, A. (2021): Desistance from crime following substance use treatment: the role of treatment retention, social network and self-control. – BMC Psychiatry 21(1): 1-12.
[26] Stangor, C. (2014): Research methods for the behavioral sciences. – Cengage Learning 480p.
[27] Statistical Institute of Jamaica (2017): Mid-year population by Parish. – Government of Jamaica Official Portal. Retrieved from: https://statinja.gov.jm/Demo_SocialStats/MidYearPopulationbyParish.aspx

[28] Stone, C. (1991): Hard Drug Use in a Black Island Society-A Survey of Drug Use in Jamaica. – Caribbean Studies 21p.
[29] Tabachnick, B.G., Fidell, L.S. (2013): Using multivariate statistics: Pearson new international edition. – Pearson Higher Ed. 983p.
[30] United Nations (UN) (2021): COVID pandemic fuelling major increase in drug use worldwide: UN report. – UN Official Portal. Retrieved from: https://news.un.org/en/story/2021/06/1094672#:~:text=COVID%20pandemic%20fuelling%20major%20increase%20in%20drug%20use%20worldwide%3A%20UN%20report,-24%20June%202021&text=Around%20275%20million%20people%20used,22%20per%20cent%20from%202010.
[31] United Nations (UN) (2019): World drug report 2019: 35 million people worldwide suffer from drug use disorders while only 1 in 7 people receive treatment. – United Nation Official Portal. Retrieved from: https://www.unodc.org/unodc/en/frontpage/2019/June/world-drug-report-2019_-35-million-people-worldwide-suffer-from-drug-use-disorders-while-only-1-in-7-people-receive-treatment.html
[32] VanderStoep, S.W., Johnson, D.D. (2009): Research Methods for Everyday Life: Blending Qualitative and Quantitative Approaches. – Jossey-Bass 352p.
[33] Younger-Coleman, N., Cumberbatch, C., Campbell, J., Ebanks, C., Williams, D., O'Meally, V. (2016): 2016 National Drug Use Prevalence Survey. – Open Society Foundations 186p.
[34] Wilks, R., Younger, N., Tulloch-Reid, M., McFarlane, S., Francis, D. (2008): Jamaica Health and Lifestyle Survey 2007-8 Technical Report. – University of the West Indies 20p.